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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,796	08/06/2003	James B. O'Dwyer	1873A1	2706

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PPG INDUSTRIES, INC
Intellectual Property Department
One PPG Place
Pittsburgh, PA 15272

EXAMINER

CHEUNG, WILLIAM K

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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11/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/635,796

Applicant(s)

O'DWYER ET AL.

Examiner

William K. Cheung

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-23,26-31,40,43-52 and 55-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-23,26-31,40,43-52 and 55-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The examiner acknowledges the receipt of the amendment filed September 14, 2007. Claims 1, 5-23, 26-31, 40, 43-52, 55-57 are pending.
2. In view of the argument filed September 14, 2007, the rejection of Claims 1, 5-23, 26-31, 40, 43-52, 55-57 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Barancyk et al. (US 5,922,475), is withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1, 5-23, 26-31, 40, 43-52, 55-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

An improper use of MARKUSH GROUPS is recited in claim 1 (line 6), The term "selected from and/or ..." is improper. It should be corrected to "selected from a group consisting of, and" See MPEP 2173.05 (h).

An improper use of MARKUSH GROUPS is recited in claim 30 (line 2-5), The term "selected from and ..." is improper. It should be corrected to "selected from a group consisting of, and" See MPEP 2173.05 (h).

An improper use of MARKUSH GROUPS is recited in claim 40 (line 6), The term "selected from and/or ..." is improper. It should be corrected to "selected from a group consisting of, and" See MPEP 2173.05 (h).

An improper use of MARKUSH GROUPS is recited in claim 46 (line 5-10), The term "selected from and ..." is improper. It should be corrected to "selected from a group consisting of, and" See MPEP 2173.05 (h).

An improper use of MARKUSH GROUPS is recited in claim 48 (line 1-2), The term "selected from and ..." is improper. It should be corrected to "selected from a group consisting of, and" See MPEP 2173.05 (h).

Claim 2 (line 3) the recited chemical structure (II) is considered indefinite. There is insufficient antecedent basis for this limitation in the claim. The independent claim 1 requires the acceptor monomer to be an acrylic monomer. Therefore, the dependent claim 2 does not have antecedent basis for a monomer that is not acrylic based material.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent

and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 5-23, 26-31, 40, 43-52, 55-57 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 5,922,475. Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention of claims 1-16 of U.S. Patent No. 5,922,475 fully encompasses the invention of claims 1, 5-23, 26-31, 40, 43-52, 55-57 of instant application.

Applicant's arguments filed September 14, 2007 have been fully considered but they are not persuasive. Applicants argue that claims 1-16 of U.S. Patent No. 5,922,475 do not claim a donor monomer that is selected from isobutylene, diisobutylene, dipentene, and/or isoprenol. However, applicants must recognize that claim 1 of U.S. Patent No. 5,922,475 do not exclude the isobutylene, diisobutylene, dipentene, and/or

isoprenol monomer being claimed. Therefore, the invention of claims 1-16 of U.S.

Patent No. 5,922,475 fully encompasses the invention as claimed. Therefore, ODP rejection set forth is proper.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 5-23, 26-31, 40, 43-52, 55-57 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Barancyk et al. (US 5,922,475), in view of Anderson et al. (US 6,306,965).

*The invention of claims 1, 5-23, 26-31 relates to a **reaction product of reactants**, wherein the reactants comprise:*

a) **at least one copolymer** comprising at least **30 mol % of residues having the following alternating structural units:**



wherein DM represents a residue from a donor monomer, AM represents a residue from an acceptor monomer, **at least 15 mol % of the copolymer comprising a donor monomer selected from isobutylene, diisobutylene, dipentene, and/or isoprenol, at least 15 mol % of the copolymer comprising an acrylic monomer as an acceptor monomer; the copolymer containing pendant carbamate groups or groups that can be converted to carbamate groups;**

b) **at least one aldehyde; and**

c) **at least one monohydric alcohol; wherein when the copolymer (a) contains groups that can be converted to carbamate groups, the reactants further comprise:**

d) **at least one material that will convert said groups into carbamate groups.**

The invention of claims 40, 43-52, 55-57 relates to a **copolymer comprising at least 30 mol % of residues having the following alternating structural units:**



wherein DM represents a residue from a donor monomer, AM represents a residue from an acceptor monomer, **at least 15 mol % of the copolymer comprising a donor monomer selected from isobutylene, isobutylene, dipentene and/or isoprenol, at least 15 mol % of the copolymer comprising an acrylic monomer as an acceptor monomer; the copolymer containing pendant groups of the structure:**



where R' is alkyl containing one to eight carbon atoms and R'' is selected from H, CH₂OR', linear, cyclic or branched C₁ to C₂₀ alkyl, alkenyl, C₆ to C₂₀ aryl, alkaryl and aralkyl.

Barancyk et al. (abstract) disclose a curable composition comprising a polyester polymer or oligomer containing plurality of carbamate groups, an alkylolated and optionally etherified carbamate functional acrylic polymer, and an aminoplast crosslinking agent. Further, Barancyk et al. (col. 6, line 16-45; col. 11, line 7-33) disclose a list of comonomers, which comprises the donor and acceptor monomers as claimed. Barancyk et al. (col. 5, line 28-43) disclose the incorporation of polyisocyanates into the disclosed composition.

Regarding the claimed "at least 15 mol%" of the donor or the acceptor monomer in the claimed composition, Barancyk et al. (col. 11-14, the table of examples) clearly indicate such embodiment in the table.

Regarding the claimed "aldehyde" and "alcohol" components, Barancyk et al. (col. 5, line 18-24; col. 12, line 10-24) clearly teach the incorporation of aldehyde and alcohol into the disclosed composition.

Regarding the claimed molecular weight properties, Barancyk et al. (col. 7, line 17-30) clearly teach a molecular weight range that significantly overlaps with the molecular weight range being claimed.

Since the composition of Barancyk et al. do not disclose the need for maleate monomer segments and fumarate monomer segments, the examiner has a reasonable basis to believe that the composition of Barancyk et al. encompasses compositions that are free of maleate monomer segments and fumarate monomer segments.

Regarding the claimed structure of the function group of claim 40, Barancyk et al. (col. 4, line 24-32; col. 5, line 1-10) clearly disclose the claimed structure.

Regarding the claimed "alternating" structural properties, because the "alternating" nature of the comonomers depends on their Alfrey-Price e values of the comonomers, in view of the substantially identical monomers disclosed in Barancyk et al. and the monomers as claimed, and in view that the polymerization process of Barancyk et al. (col. 6, line 46-65) and as claimed are both drawn to the preparation of the copolymers with organic peroxides, the examiner has a reasonable basis that the claimed "alternating" feature, is inherently possessed in Barancyk et al.

The difference between the invention of claims 1, 5-23, 26-31, 40, 43-52, 55-57 and Barancyk et al. is that Barancyk et al. do not indicate a composition comprising a donor monomer selected from isobutylene, diisobutylene, dipentene, and isoprenol.

However, Anderson et al. (col. 1, line 12-22) disclose a coating composition comprising carbamate functional polymers. Anderson et al. (col. 25, claim 8) clearly claim a composition comprising olefins. Further, Anderson et al. (col. 6, line 30-35) explicitly teach that the claimed olefins can include isobutylene and diisobutylene. Therefore, in view of substantially identical endeavor of developing a carbamate containing coating composition, and motivated by the expectation of success of

developing a coating composition with a combination of good exterior durability, acid etch and water spot resistance, and excellent gloss and appearance (col. 1, line 39-43), it would have been obvious to one of ordinary skill in art to incorporate the isobutylene and diisobutylene of Anderson et al. into Barancyk et al. to obtain the invention of claims 1, 5-23, 26-31, 40, 43-52, 55-57.

Further, in view of the substantially identical monomers and comonomer composition as taught in Barancyk et al. and Anderson et al, and as claimed, the examiner has a reasonable basis that the claimed polydispersity properties is inherently possessed in Barancyk et al. and Anderson et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K. Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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William K. Cheung, Ph. D.

Primary Examiner

November 23, 2007

WILLIAM K. CHEUNG
PRIMARY EXAMINER